

This page is mainly introduced the 1025 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1025, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Data Table for Grades Structural Steel 1025

1025 Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5046D (2012)	Carbon Steel, Sheet, Strip, and Plate (SAE 1020 and 1025) Annealed
2	SAE AMS 5075F (2001)	Steel Tubing, Seamless 0.22 - 0.28C (SAE 1025) Cold Drawn and Stress Relieved
3	SAE AMS 5077G (2006)	Steel Tubing, Welded (0.22 - 0.28C) (SAE 1025) Normalized or Stress Relieved
4	SAE AMS-S-7952A (1998)	Steel, Sheet and Strip, Uncoated, Carbon (1020 and 1025) (Aircraft Quality)
5	SAE AMS-T-5066A (2005)	Tubing, Carbon Steel (1025), (Aircraft Quality)
6	A 1040 (2010)	Standard Guide for Specifying Harmonized Standard Grade Compositions for Wrought Carbon, Low-Alloy, and Alloy Steels
7	A 108	Steel Bar, Carbon and Alloy, Cold-Finished
8	A 29/A 29M (2012)	Steel Bars, Carbon and Alloy, Hot-Wrought, General Requirements for
9	A 510/A 510M (2011)	General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel
10	A 512 (2006)	Cold-Drawn Buttweld Carbon Steel Mechanical Tubing
11	A 513/A 513M (2012)	Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing
12	A 519 (2006)	Seamless Carbon and Alloy Steel Mechanical Tubing
13	A 575 (2007)	Steel Bars, Carbon, Merchant Quality, M-Grades
14	A 576 (1990)	Steel Bars, Carbon, Hot-Wrought, Special Quality
15	A 830/A 830M (2011)	Plates, Carbon Steel, Structural Quality, Furnished to Chemical Composition Requirements
16	SAE J 1397 (1992)	Estimated Mechanical Properties and Machinability of Steel Bars
17	SAE J 403 (2009)	Chemical Compositions of SAE Carbon Steels

1025 Chemical composition(mass fraction)(wt.%)		
Chemical	Min.(%)	Max.(%)
C	0.22	0.28
Mn	0.30	0.60
P		0.040
S		0.050

### 1025 Physical Properties

Tensile strength	115-234	$\sigma_b$ /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
$\psi$	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	123-321	-
HRC	30	-

### 1025 Mechanical Properties

Tensile strength	231-231	$\sigma_b$ /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta_5 \geq$ (%)
$\psi$	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	235-268	-
HRC	30	-

### 1025 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

### 1025 Range of products

Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	$\Phi$ 8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID-WASHED

**We can produce Structural Steel the specifications follows:**

**Note:**

- (1) listed in the table apex diameter (d), to steel thickness (a) multiples said.
- (2) in the ASTM A6 standard specified scope can meet any additional conditions.
- (3) from the standard for 50 mm (2 in).

**Mechanical properties**

Mechanische Eigenschaften

Caracteristiques mecaniques

ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d'elasticite minimale

Rm Tensile strength / Zugfestigkeit / Resistance a la traction

A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal

J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc

**Round bar:**

Diameter : 1mm-2000mm

**Square bar:**

Size: 50mm \* 50mm-600mm \*600mm

**Plate steel/flat bar:**

Size: Thickness: 0.1mm-800mm Width: 10mm to 1500mm

**Tube/pipe:**

Size: OD: 6-219mm WT: 1-35 mm.

Cold-rolled sheet: Thickness: 2-5mm Width:1000mm Length: 2000mm

Hot-rolled sheet: Thickness:6-80mm Width: 210-610mm

Length: We can supply any length based on the customer's requirement.

Forging/hot rolling/ extrusion of steel.

Forging: Shafts with flanks/pipes/tubes/slugs/donuts/cubes/other shapes

Finished goods condition: hot forging/hot rolling + annealing/normalizing + tempering/quenching + tempering/any conditions based on the customer's requirement

Surface conditions: scaled (hot working finish)/ground/rough machining/fine machining/based on the customer's requirement

Furnaces for metallurgical processing: electrode arc + LF/VD/VOD/ESR/Vacuum consumable electrode.

Ultrasonic inspection: 100% ultrasonic inspection for any imperfections or based on the customer's requirement.

UTS according to SEP 1921 C/c,D/d,E/e;A388 or GB/T 6402

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We serve you with our honesty, integrity, and professionalism.